



Colorado E85 Coalition: E85 and Flex Fuel Vehicle (FFV) Facts for Colorado

Flex Fuel Vehicle Statistics

- There are over 5 million FFVs currently on US roads. That number will grow to at least 7.5 million FFVs within the next few years.
- Colorado has approximately 300,000 FFVs; comprising 6% of all FFVs in the U.S.
- Colorado's population is about 1.5 % of the total US population. Proportionately, we have 4 times as many FFVs as would be randomly expected.

Flex Fuel Vehicles by Colorado's Zip Code Areas (ZCAs)

- 40% of Colorado FFVs are found in less than 6% of Colorado's ZCAs, which number only 35 of our 615 total ZCAs.
- Largest number of FFVs in a single ZCA is nearly 14,000 and is located within the Denver International Airport (DIA) ZCA of 82049.
- The next largest number is located within Littleton ZCA 80125 and seven other ZCAs follow with over 3,000 FFVs each; therefore, 15% (approximately 44,000) of all Colorado FFVs are found in just ten of Colorado's ZCAs.

E85 Availability & Usage

- There are 11 E85 pumps in Colorado and 10 are open to the public.
- If the installation of 10 additional E85 pumps (doubling the current number of Colorado's public-accessible E85 pumps to twenty) can be achieved in the near future, then installing one in each of these ten Colorado ZCAs which collectively have 44,000 FFVs, might be a reasonable Colorado E85 Coalition tactic. On the other hand, nearly 20,000 (7% of the total state's FFVs) of the 44,000 FFVs within these 10 areas are found in only 2 of them. Therefore, maybe 3 or 4 of the 10 pumps might be placed within these 2 ZCAs.
- To calculate the number of E85 gallons likely to be used per year by all Colorado FFVs, we can adopt the average number of miles driven/year/vehicle from Energy Information Administration (EIA) data. Extrapolating that data through 2006 indicates the national average is certainly somewhat greater than 12,000 miles but we can assume some decrease in annual mileage driven, if fuel prices continue to rise. Assuming an average 20 mpg (likely high across all types of E85-capable vehicles) using straight gasoline and a loss of 10 % in mpg for ethanol vs. straight gasoline – meaning for a gallon of E85 we would expect 18.3 mpg (i.e., 3 mpg for the 15% of gasoline and 15.3 mpg for the 85% of ethanol). Therefore, in one year, using the 12,000 miles driven per year per vehicle figure to determine gallons fuel use per year, our Colorado E85 vehicles would require approximately 167 million gallons of straight ethanol (i.e., 12,000 miles driven divided by 18.3 mpg times 85% ethanol times the 300,000 FFVs).
- If we extend the computation used above to the 5 million US FFVs, the number grows to over 2.5 billion gallons of straight ethanol. That means, that a fleet of E85 vehicles numbering three times the current 5 million US FFVs could be fully powered by E85 when the EPA's renewable portfolio standard of 7.5 billion gallons/year of ethanol is reached – which is probable as early as 2008; far ahead of the pace to bring FFVs online nationwide. (This presupposes that many states do not mandate ethanol blends of E-20, thereby greatly reducing available supplies for E-85.)
- On the downside, each FFV using E85 would annually use about 56 more gallons of fuel than if they used only straight gasoline. Therefore, if all current Colorado FFVs used only E85, then collectively they would annually use almost 17 million more gallons of fuel than if they used straight gasoline. In the future, if FFV manufacturers produce FFVs to more efficiently use E-85, as they are likely to do, then that mileage differential will decrease or disappear.
- Currently, and very important to our planned successes, E85 needs to be 10% cheaper, at the pump, than straight unleaded gasoline to provide an equivalent price.